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Huang

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(54) **CMUT PACKAGING FOR ULTRASOUND SYSTEM**

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438/48; 73/861.27; 367/181; 257/296,
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See application file for complete search history.

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1150 days.

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(58) **Field of Classification Search**

CPC B06B 1/065; B06B 11/00; B06B 3/00; A61B 8/12; H04R 31/00

(57) **ABSTRACT**

Ultrasonic scanners and methods of manufacturing ultrasonic scanners. One embodiment of a method includes integrating a flexible electronic device (e.g. an IC) and a flexible ultrasonic transducer (e.g. a portion of a circular CMUT array) with a flexible member. The IC, the transducer, and the flexible member can form a flexible subassembly which is rolled up to form an ultrasonic scanner. The integration of the IC and the transducer can occur at the same time. In the alternative, the integration of the electronic device can occur before the integration of the transducer. Moreover, the integration of the transducer can include using a semiconductor technique. Furthermore, the rolled up subassembly can form a lumen or can be attached to a lumen. The method can include folding a portion of the flexible subassembly to form a forward looking transducer. The flexible member of some subassemblies can include a pair of arms.

33 Claims, 12 Drawing Sheets

